bintec elmeg
Teldat Group Company

MOBILE CONNECTIVITY

Rugged LTE router for broadband applications in vehicles

bintec RV120w-4G

- 4G/3G module for Internet connecticity
- WLAN module as Access Point or as WLAN client useable
- WLAN HotSpot for bus passengers
- GPS for location analysis and for action triggering
- Up to 30 simultaneous VPN tunnels
- Extended temperature range for the operation in vehicles
- E1 automotive approval

bintec RV120w-4G

Rugged LTE router for broadband applications in vehicles

Rugged 4G router certified for use in vehicles. Integrated wireless LAN provides internet access for passengers. GPS positioning allows automatic activation of client mode in the bus terminal, for instance for accessing passenger data.

Moving vehicles represents a technical challenge for data transmission due to the electromagnetic shielding caused by the vehicle's cabin. Additional technical issues include electromagnetic interference, vibrations, and extreme temperature fluctuations.

Rugged

bintec RV series automotive routers are robust devices designed for unattended use in vehicles such as buses, emergency medical vehicles, police cars, and trucks. They provide the internet connectivity required for IP-based video surveillance systems, telemetry applications, vehicle tracking, wireless LAN connections that provide internet access to passengers, and advertisements displayed on digital signage.

Flexible

The **bintec RV series** combines flexible connectivity options (LTE, UMTS, wireless LAN, and more) with a broad range of software features such as the integrated IPSec functionality and the web-based graphical configuration interface and its wizards. The integrated 4G modem supports both LTE with 100 Mbps downloads and up to 50 Mbps uploads as well as UMTS (3G+) and HSPA+ for download speeds of up to 42.2 Mbps and 5.76 Mbps for uploads. Operators can connect IP-based surveillance cameras and onboard computers to the device via the integrated four port Ethernet switch.

Secure

bintec RV series routers provide an unparalleled range of IPSec features. All bintec RV series routers ship with 5 hardware-accelerated IPSec tunnels that can be upgraded to as many as 30 if required. Thanks to the comprehensive multicast implementation, bintec RV routers are ideal for multimedia and streaming applications such as video surveillance.

Variants

RV120w-4G (5510000336)	Rugged 4G router for vehicles. 4G/3G module, GPS, WLAN, 4-port 10/100Mbit/s switch, incl. 5 VPN tunnel (up to 30 VPN tunnel opt.), E1 approval, Power supplier from the vehicle battery.
RV-Starterkit (5520000132)	Starter kit for RV-Serie contains 2x WLAN antennas, 2x 4G/3G antennas, GPS antenna, Power supply 100-240V

Features

Wireless LAN	
WLAN operation	WLAN = Radio off; WLAN = Standalone Access Point; WLAN = Managed Access Point; WLAN = Master Access Point for up to 6 APs; WLAN = WLAN Client
WLAN operation	WLAN AP operation or WLAN client operation manually or automatic selectable. The automatic selection of the client mode can be triggered by matching the GPS data (i.e. reaching the bus depot)
WLAN standards	802.11n (Mimo 2x3); 802.11b; 802.11g; 802.11a; 802.11h
Frequency bands 2.4 GHz indoor/outdoor (EU)	2.4 GHz Indoor/Outdoor (2412-2472 MHz) max. 100 mW EiRP. The permitted transmission power may vary in countries outside the EC.
Frequency bands 5 GHz indoor (EU)	5 GHz indoor (5150-5350 MHz) max. 200 mW EiRP allowed (Germany). The permitted transmission power may vary in other countries.
Frequency bands 5 GHz outdoor (EU)	5 GHz outdoor (5470-5725 MHz) max. 200 mW EiRP allowed (Germany). The permitted transmission power may vary in other countries.
WLAN modes	2.4 GHz operation: 802.11b only; 802.11g only, 802.11b/g/n mixed; 802.11b/g/n mixed long; 802.11b/g/b mixed short; 802.11b/g/n; 802.11g/n; 802.11n only; 5 GHz Operation: 802.11a only; 802.11a/n; 802.11n only
Automatic Rate Selection (ARS)	Automatic usage of the optimized data rate
Data rates for 802.11b,g (2.4 GHz)	11, 5.5, 2 und 1 Mbps (DSSS modulation); 54, 48, 36, 24, 18, 12, 9 and 6 Mbps (OFDM modulation)
Data rates for 802.11a,h (5 GHz)	54, 48, 36, 24, 18, 12, 9 and 6 Mbps (OFDM modulation)
Data rates for 802.11n (2.4 / 5 GHz)	MCS0-15 enables physical rates up to 150 Mbps at 20 MHz channels bandwidth, 2 streams, short guard interval; MCS0-15 enables physical data rates up to 300 Mbps at 40 MHz channels bandwidth, 2 streams, short guard interval
TX power @ 2,4 GHz 801.11b/g	1 Mbps 20 dBm; 2 Mbps 20 dBm; 5,5 Mbps 20 dBm; 11 Mbps 20 dBm; 6 Mbps 20 dBm;9 Mbps 20 dBm; 12 Mbps 20 dBm; 18 Mbps 20 dBm; 24 Mbps 20 dBm; 36 Mbps 20 dBm; 48 Mbps 20 dBm; 54 Mbps 20 dBm
TX power @ 2,4 GHz 802.11n 20 MHz	MCS0/8 20 dBm; MCS1/9 20 dBm; MCS2/10 20 dBm; MCS3/11 20 dBm; MCS4/12 20 dBm; MCS5/13 20 dBm; MCS6/14 20 dBm; MCS7/15 20 dBm
TX power @ 2,4 GHz 802.11n 40 MHz	MCS0/8 20 dBm; MCS1/9 20 dBm; MCS2/10 20 dBm; MCS3/11 20 dBm; MCS4/12 20 dBm; MCS5/13 20 dBm; MCS6/14 20 dBm; MCS7/15 20 dBm
TX power @ 5 GHz 801.11a/h	6 Mbps 23 dBm;9 Mbps 23 dBm; 12 Mbps 23 dBm; 18 Mbps 23 dBm; 24 Mbps 23 dBm; 36 Mbps 23 dBm; 48 Mbps 23 dBm; 54 Mbps 23 dBm
TX power @ 5 GHz 802.11n 20 MHz	MCS0/8 23 dBm; MCS1/9 23 dBm; MCS2/10 22 dBm; MCS3/11 21 dBm; MCS4/12 20 dBm; MCS5/13 19 dBm; MCS6/14 18 dBm; MCS7/15 18 dBm
TX power @ 5 GHz 802.11n 40 MHz	MCS0/8 22 dBm; MCS1/9 22 dBm; MCS2/10 21 dBm; MCS3/11 20 dBm; MCS4/12 19 dBm; MCS5/13 18 dBm; MCS6/14 17 dBm; MCS7/15 17 dBm
Receiver Sensitivity @ 2.4 GHz 802.11b/g	1 Mbps -92 dBm; 2 Mbps -92 dBm; 5,5 Mbps -92 dBm; 11 Mbps -92 dBm; 6 Mbps -95 dBm;9 Mbps -95 dBm; 12 Mbps -94 dBm; 18 Mbps -92 dBm; 24 Mbps -90 dBm; 36 Mbps -85 dBm; 48 Mbps -83 dBm; 54 Mbps -80 dBm
Receiver Sensitivity @ 2.4 GHz 802.11n 20 MHz	MCS0 -95 dBm; MCS1 -94 dBm; MCS2 -92 dBm; MCS3 -88 dBm; MCS4 -85 dBm; MCS5 -81 dBm; MCS6 -80 dBm; MCS7 -78dBm; MCS8 -95 dBm; MCS9 -94 dBm; MCS10 -91 dBm; MCS11 -87 dBm; MCS12 -84 dBm; MCS13 -81 dBm; MCS14 -79 dBm; MCS15 -77 dBm

Wireless LAN

Receiver Sensitivity @ 2.4 GHz 802.11n 40 MHz	MCS0 -92 dBm; MCS1 -91 dBm; MCS2 -89 dBm; MCS3 -86 dBm; MCS4 -82 dBm; MCS5 -79 dBm; MCS6 -77 dBm; MCS7 -75 dBm; MCS8 -91 dBm; MCS9 -91 dBm; MCS10 -89 dBm; MCS11 -85 dBm; MCS12 -82 dBm; MCS13 -78 dBm; MCS14 -77 dBm; MCS15 -74 dBm
Receiver Sensitivity @ 5 GHz 802.11n 20 MHz	MCS0 -96 dBm; MCS1 -93 dBm; MCS2 -91 dBm; MCS3 -88 dBm; MCS4 -85 dBm; MCS5 -81 dBm; MCS6 -79 dBm; MCS7 -77 dBm; MCS8 -94 dBm; MCS9 -92 dBm; MCS10 -90 dBm; MCS11 -87 dBm; MCS12 -84 dBm; MCS13 -80 dBm; MCS14 -78 dBm; MCS15 -76 dBm
Receiver Sensitivity @ 5 GHz 802.11n 40 MHz	MCS0 -91 dBm; MCS1 -89 dBm; MCS2 -87 dBm; MCS3 -84 dBm; MCS4 -81 dBm; MCS5 -78 dBm; MCS6 -76 dBm; MCS7 -74 dBm; MCS8 -90 dBm; MCS9 -89 dBm; MCS10 -87 dBm; MCS11 -83 dBm; MCS12 -80 dBm; MCS13 -77 dBm; MCS14 -75 dBm; MCS15 -73 dBm
Output power (without antenna gain)	Adjustable in following steps: 5, 8,11,14,16, 17 dBm and maximum. Maximal power varies depending on data rate and frequency band.

LTE(4G) / UMTS(3G)

Supported standards	LTE - 4G (Download up tp 100 Mbit/s and Upload up to 50 Mbit/s), UMTS - 3.5G (HSPA+), GPRS-, Edge- and GSM support
LTE (4G) frequencies	800/900/1800/2100/2600 MHz
UMTS - HSPA (3.5G) / EDGE - GPRS (2G) frequencies	850/900/1800/1900/2100 MHz

VPN

PPTP (PAC/PNS)	Point to Point Tunneling Protocol for establishing fo Virtual Privat Networks, inclusive strong encryption methods with 128 Bit (MPPE) up to 168 Bit (DES/3DES, Blowfish)
GRE v.0	Generic Routing Encapsulation V.0 according RFC 2784 for common encapsulation
L2TP	Layer 2 tunnelling protocol inclusive PPP user authentication
Number of VPN tunnels	Inclusive 5 active VPN tunnels with the protocols IPSec, PPTP, L2TP and GRE v.0 . Up to 30 simultanoues, active VPN tunnel possible with a additional license. Up 100 profiles of VPN tunnels are definable.
IPSec	Internet Protocol Security establishing of VPN connections
Number of IPSec tunnels	Inclusive 5 active IPSec tunnels. Up to 30 simultanoues, active tunnel possible with a additional license. Up 100 profiles of tunnels are definable.
IPSec Algorithms	DES (64 Bit), 3DES (192 Bit), AES (128,192,256 Bit), CAST (128 Bit), Blowfish (128-448 Bit), Twofish (256 Bit); MD-5, SHA-1, RipeMD160, Tiger192 Hashes
IPSec hardware acceleration	Integrated hardware acceleration for IPSec encryption algorithms DES, 3DES, AES
IPSec IKE	IPSec key exchange via preshared keys or certificates
IPSec IKE Config Mode	IKE Config Mode server enables dynamic assignment of IP addresses from the address pool of the company. IKE Config Mode client enables the router, to get assigned dynamically an IP address.
IPSec IKE XAUTH (Client/Server)	Internet Key Exchange protocol Extended Authenticaion client for login to XAUTH server and XAUTH server for loging of XAUTH clients
IPSec IKE XAUTH (Client/Server)	Inclusive the forwarding to a RADIUS-OTP (One Time Password) server (supported OTP solutions see www.bintec-elmeg.com).

VPN	
IPSec NAT-T	Support of NAT-Traversal (Nat-T) for the application at VPN lines with NAT
IPSec IPComp	IPSec IPComp data compression for higher data throughput via LZS
IPSec certificates (PKI)	Support of X.509 multi-level certificates compatible to Micrososft and Open SSL CA server; upload of PKCS#7/8/10/12 files via TFTP, HTTP, HTTP, LDAP, file upload and manual via FCI
IPSec SCEP	Certificates management via SCEP (Simple Certificate Enrollment Protocol)
IPSec Certificate Revocation Lists (CRL)	Support of remote CRLs on a server via LDAP or local CRLs
IPSec Dead Peer Detection (DPD)	Continuous control of IPSec connection
IPSec dynamic DNS	Enables the registering of dynamic IP addresses by a dynamic DNS provider for establishing a IPSec connection.
IPSec RADIUS	Authentication of IPSec connections at a RADIUS server. Additionally the IPSec peers, which were configured on a RADIUS server, can be loaded into the gateway (RADIUS dialout).
IPSec Multi User	Enables the Dial-in of several IPSec clients via a single IPSec peer configuration entry
IPSec QoS	The possibility to operate Quality of Service (traffic shaping) inside of an IPSec tunnel
IPSec NAT	By activating of NAT on an IPSec connection it is possible, to implement several remote locations with identical local IP addess networks in different IP nets for the VPN connection

Security	
NAT/PAT	Symmetric Network and Port Address Translation (NAT/PAT) with randomly generated ports inclusive Multi NAT (1:1 translation of whole networks)
Policy based NAT/PAT	Network and Port Address Translation via different criteria like IP protocols, source/destination IP Address, source/destination port
Policy based NAT/PAT	For incoming and outgoing connections and for each interface variable configurable
Content Filtering	Optional ISS/Cobion Content filter (30 day test license inclusive)
Stateful Inspection Firewall	Packet filtering depending on the direction with controling and interpretation of each single connection status
Packet Filter	Filtering of IP packets according to different criteria like IP protocols, source/destination IP address, source/destination port, TOS/DSCP, layer 2 priority for each interface variable configurable

Routing	
Policy based Routing	Extended routing (Policy Based Routing) depending of diffent criteria like IP protocols (Layer4), source/destination IP address, source/destination port, TOS/DSCP, source/destination interface and destination interface status
Multicast IGMP	Support of Internet Group Management Protocol (IGMP v1, v2, v3) for the simultaneous distribution of IP packets to several stations
Multicast IGMP Proxy	For easy forwarding of multicast packets via dedicated interfaces
Multicast inside IPSec tunnel	Enables the transmission of multicast packets via an IPSec tunnel
RIP	Support of RIPv1 and RIPv2, separated configurable for each interface

Routing

Extended RIP	Triggerd RIP updates according RFC 2091 and 2453, Poisened Rerverse for a better distribution of the routes; furthermore the possibility to define RIP filters for each interface.

Protocols / Encapsulations

PPP/MLPPP	Support of Point to Point Protocol (PPP) for establishing of standard PPP connections, inclusive the Multilink extension MLPPP for the bundeling of several connections
PPPoE (Server/Client)	Point-to-Point Protocol over Ethernet (Client and Server) for establisching of PPP connections via Ethernet/DSL (RFC 2516)
MLPPPoE (Server/Client)	Multilink extension MLPPPoE for bundeling several PPPoE connections (only if both sides support MLPPPoE)
DNS	DNS client, DNS server, DNS relay and DNS proxy
DYN DNS	Enables the registering of dynamic assigned IP addresses at adynamic DNS provider, e.g. for establishing of VPN connections
DNS Forwarding	Enables the forwarding of DNS requests of free configurable domains to assigned DNS server.
DHCP	DHCP Client, Server, Proxy and Relay for siplified TCP/IP configuration
Packet size controling	Adaption of PMTU or automatic packet size controling via fragmentation
HotSpot/Captive Portal	Support of guest networks. Supports the bintec HotSpot solution.

Quality of Service (QoS)

Policy based Traffic Shapping	Dynamic bandwidth management via IP traffic shaping
Bandwidth reservation	Dynamic reservation of bandwidth, allocation of guaranteed and maximum bandwidths
DiffServ	Priority Queuing of packets on the basis of the DiffServ/TOS field
Layer2/3 tagging	Conversion of 802.1p layer 2 priorisation information to layer 3 diffserv attributes
TCP Download Rate Control	For reservation of bandwidth for VoIP connections

Redundancy / Loadbalancing

BRRP	Optional: Bintec Router Redundancy Protocol for backup of several passive or active devices with free selectable priority
BoD	Bandwidth on Demand: dynamic bandwidth to suit data traffic load
Load Balancing	Static and dynamic load balancing to several WAN connections on IP layer
VPN backup	Simple VPN backup via different media. Additional enables the bintec elmeg interface based VPN concept the application of routing protocols for VPN connections.

Layer 2 Functionality

Layer 2 Functionality

Bridging	Support of layer 2 bridging with the possibility of separation of network segment via the configuration of bridge groups
VLAN	Support of up to 32 VLAN (Virtual LAN) for segmentation of the network in independent virtual segments (workgroups)
Proxy ARP	Enables the router to answer ARP requests for hosts, which are accessible via the router. That enables the remote clients to use an IP address from the local net.

Logging / Monitoring / Reporting

Internal system logging	Syslog storage in RAM, display via web-based configuration user interface (http/https), filter for subsystem, level, message
External system logging	Syslog, several syslog server with different syslog level configurable
E-Mail alert	Automatic E-Mail alert by definable events
SNMP traps	SNMP traps (v1, v2, v3) configurable
IPSec monitoring	Display of IPSec tunnel and IPSec statistic; output via web-based configuration user interface (http/https)
Interfaces monitoring	Statistic information of all pysical and logical interfaces (ETH0, ETH1, SSIDx, ...), output via web-based configuration user interface (http/https)
IP accounting	Detailed IP accounting, source, destination, port, interface and packet/bytes counter, transmission also via syslog protocol to syslog server
RADIUS accounting	RADIUS accounting for PPP, PPTP, PPPoE and ISDN dialup connections
Keep Alive Monitoring	Control of hosts/connections via ICMP polling
Tracing	Detailed traces can be done for different protocols e.g. PPPoE, ... generation local on the device and remote via DIME Manager
Tracing	Traces can be stored in PCAP format, so that import to different open source trace tools (e.g. wireshark) is possible.
WLAN monitoring	Detailed display for radio, VSS, WDS links, bridge links, client links.
WLAN Monitoring	Display for each link: MAC address, IP address, TX packets, RX packets, signal strength for all receiver antennas, signal-to-noise ratio, data rate; output via web-based configuration user interface (http/https)

Administration / Management

Ignition control	By switching the control input "ACC" the devices is switching off automatically after a defined time period to avoid discharging of the vehicle battery. The time period is definable.
RADIUS	Central check of access authorization at one or several RADIUS server, RADIUS (PPP, IPSec inclusive X-Auth and login authentication)
RADIUS dialout	On a RADIUS server configured PPP und IPSec connection can be loaded into the gateway (RADIUS dialout).
TACACS+	Support of TACACS+ server for login authentication and for shell comando authorization

Administration / Management

Time synchronization	The device system time can be obtained from a SNTP server (up to 3 time server configurable). The obtained time can also be transmitted per SNTP to SNTP clients.
Automatic Time Settings	Time zone profiles are configurable. That enables an automatic change from summer to winter time.
Supported management systems	DIME Manager, Xadmin, WLAN Controller
Configuration Interface (FCI)	Integrated web server for web-based configuration via HTTP or HTTPS (supporting self created certificates). This user interface is by most of bintec elmeg GmbH products identical.
Software update	Software updates are free of charge; update via local files, HTTP, TFTP or via direct access to the bintec elmeg web server
Remote maintenance	Remote maintenance via telnet, SSL, SSH, HTTP, HTTPS and SNMP (V1,V2,V3)
Serial interface	For configuration and debugging
	Possible
Device discovery function	Device discovery via SNMP multicast.
On The Fly configuration	No reboot after reconfiguration required
SNMP	SNMP (v1, v2, v3), USM model, VACM views, SNMP traps (v1, v2, v3) configurable, SNMP IP access list configurable
SNMP configuration	Complete management with MIB-II, MIB 802.11, Enterprise MIB
Configuration export and import	Load and save configurations, optional encrypted; optional automatic control via scheduler
SSH login	Supports SSH V1.5 and SSH V2.0 for secure connections of terminal applications
XAdmin	Support of XAdmin roll out and configuration managemant tool for larger router installations (IP, GSM)

Interfaces

Ethernet	4 x 10/100 Mbps Ethernet Twisted Pair, autosensing, Auto MDI/MDI-X, up to 3 ports can be switches as additional WAN ports incl. load balancing, all Ethernet ports can be configured as LAN or WAN.
Serial console	Serial console interface / COM-port 9-pin D-Sub socket
WWAN Modul 1	LTE, UMTS, HSPA+, GPRS, Edge or GSM with integrated LTE Modem with SMA Antennenschlüssen for external LTE/UMTS antennas
GPS Modul	FME-Male antenna socket
WLAN Modul	High performance 802.11abgn (2,4/5GHz) Mimo 2x2 industrial grade radio modul with two RSMA antenna sockets for external WLAN antennas

Hardware

Housing	Rugged aluminium housing optimized for vehicle mounting. Anti-shock and Anti-vibration protection
Mounting	Include wall and ceiling mounting unit

Hardware

Environment	High temperature range: Operational -30°C to +70°C
Power supply	Optimized for the operation from a 12 Volt or 24 Volt vehicle battery. Automatic time delayed switch off via ignition control input possible.
Dimension	Ca. 200 mm x 62 mm x 165 mm (W x H x D)
Weight	1,5 kg
Fan	Fanless design therefore high MTBF
Reset button	Restart or reset to factory state possible
Status LEDs	Power/Status, 8 * Ethernet

Scope of supply

	Power supply connector (M12), Ethernet cable, Consolport-cable D-Submin 9-pin, wall mounting, Docu-CD, Installation flyer d/en

Accessories

RV Starterkit (5520000132)	2x WLAN antenna, 2x 4G/3G antenna, GPS antenna, Power supply 100-240V

GPS Functionality

Display of the position	Display of the current location as coordinates and as Google Map
Event Manager	Definition of one or multiple geographical aeras for triggering an event. This function allow a re-configuration of the unit from the WLAN AP mode to the WLAN client mode in the case that the vehicle is reaching the bus depot.

WLAN Access Point Operation Mode

Broadcast SSID	On/off switchable
Bandwidth (802.11n)	20/40 MHz (bundling of two adjoining 20 MHz channels to one 40 MHz channel)
Short guard interval (802.11n)	On/off switchable; increase of throughput by reduction of the guard intervals from 800ns to 400ns
Multi SSID	Up to 8 service sets per radio module, with virtual access points and own MAC address per SSID and assignment to a VLAN
VLAN	Network segments on layer2 possible. Per SSID one VLAN ID available. Static VLAN configuration according IEEE 802.1q; up to 32 VLANs supported.
Selection of the radio channel	Manuell or automatic channel selection
WMM 802.11e QoS	Data prioritization for TOS data, 802.11e/WMM
WMM 802.11e Power Save	Support of active WLAN clients, which support 802.11e power save
U-APSD	Unscheduled Automatic Power Save Delivery: this functionality contributes significantly to raise battery life of Voice-over-WLAN end devices
Roaming (access point mode)	Seamless roaming with IAPP (artem Inter Access Point Protocol)

WLAN Access Point Operation Mode	
Fast roaming 802.1x (access point mode)	Pre authentication and PMK caching allows fast roaming by 802.1x encryption
Country-specific settings	Channel settings according regulatory domain (802.11d) permitted.
TPC	TPC (transmission power control): For 5 GHz, automatic reduction of transmission power according EN301893
Power Management for Clients	Registering of up to 250 clients simultaneously in access point mode.
Client Management	Client overload protection (to much clients) and shifting of clients to other APs, if threshold is reached.
Airtime Fairness	Prevent performance limitation by slower or distant clients, which block the network
Buffer pool	For cushioning of peaks
RTS/CTS	RTS/CTS threshold adjustable
DTIM Period	Adjustable
Inter Cell Repeating	Inter traffic blocking for public hot spot applications for preventing of communication radio client to radio client in a single radio cell.
WLAN Security	Inactive, WEP64 (40 Bit key), WEP128 (104 Bit key), WPA Personal, WPA Enterprise, WPA2 Personal, WPA2 Enterprise
WLAN Security 802.1x	802.1x/EAP-MD5, 802.1x/EAP-TLS, 802.1x/EAP-TTLS, 802.1x/EAP-PEAP, Key Management, PSK/TKIP Encryption, AES Encryption, 802.1x/EAP
Access Control List (ACL)	MAC address filter for WLAN clients
WLAN Client	Transparent client for direct connection of Ethernet devices
Scan mode	Automatic scan mode to detect WLAN Aps
Number client profiles	1
WLAN Security	Inactive, WEP64 (40 Bit key), WEP128 (104 Bit key), WPA Personal, WPA Enterprise, WPA2 Personal, WPA2 Enterprise
Fast roaming mode	Allow the fast hand-over from one AP to another AP. The handover characteristics can modify.

Accessoires

Products	
RV120w-4G (5510000336)	Rugged 4G router for vehicles. 4G/3G module, GPS, WLAN, 4-port 10/100Mbit/s switch, incl. 5 VPN tunnel (up to 30 VPN tunnel opt.), E1 approval, Power supplier from the vehicle battery.

Software Licenses	
Rxx02/RTxx02/RXL12xxx-IPSEC25 (5500000781)	Additional 25 IPSec tunnel license for Rxx02, RTxx02 and RXL12xxx series

Software Licenses

Cobion Content Filter Small (80551)	Cobion content filter for RSxxx, Rxx02, RTxx02 series; R230a(w), R232b(w), TR200, R1200(w/wu), R3000(w), R3400, R3800, R232aw, RV-Series; list price for one year

Pick-up Service / Warranty Extension

Service Package 'large' (5500000811)	Warranty extension of 3 years to a total of 5 years, including advanced replacement for bintec elmeg products of the category 'large'. Please find a detailed description as well as an overview of the categories on www.bintec-elmeg.com/servicepackages.

Product Services

HotSpotHosting 2yr 1 location (5500000861)	HotSpot solution hosting fee for 2 year and 1 location
HotSpotHosting 1yr 1 location (5510000198)	HotSpot solution hosting fee for 1 year and 1 location
Additional HotSpot location (5510000199)	Additional location for the HotSpot solution (551000198, 5500000861) valid for one year

Add-ons

ANT-Vehicle-4G-GPS-WIFI (5500001719)	Multifunctional roof antenna for LTE/(3G) (MIMO), GPS and WIFI (MIMO) for the bintec RV-Series. Cables 3m; Plugs: LTE - SMA male (2x); WIFI - RP SMA male (2x); GPS - FME Female
RV-Starterkit (5520000132)	Starter kit for RV-Serie contains 2x WLAN antennas, 2x 4G/3G antennas, GPS antenna, Power supply 100-240V